1400 LFH ih1
Material Safety Data Sheet

1 . Product and company identification

Common name	:	1400 LFH ih1
Internal code	:	IFS0193
Supplier	:	Innospec Fuel Specialties LLC North American Headquarters 8375 South Willow Street Littleton Colorado 80124 USA
Information contact	:	1-800-441-9547
In case of emergency	:	**1-800-424-9300 (Chemtrec)**

2 . Hazards identification

Physical state	:	Liquid.
Odor	:	Aromatic.
OSHA/HCS status	:	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Emergency overview	:	WARNING! FLAMMABLE LIQUID AND VAPOR. HARMFUL IF INHALED. CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY BE HARMFUL IF ABSORBED THROUGH SKIN OR IF SWALLOWED. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE. SUSPECT CANCER HAZARD - CONTAINS MATERIAL WHICH MAY CAUSE CANCER. DEVELOPMENTAL HAZARD - CONTAINS MATERIAL WHICH CAN CAUSE ADVERSE DEVELOPMENTAL EFFECTS. Flammable liquid. Harmful by inhalation. May be harmful if absorbed through skin or if swallowed. Irritating to eyes, respiratory system and skin. Keep away from heat, sparks and flame. Avoid exposure - obtain special instructions before use. Do not breathe vapor or mist. Do not ingest. Do not get in eyes. Avoid contact with skin and clothing. Contains material that can cause target organ damage. Contains material which may cause cancer. Risk of cancer depends on duration and level of exposure. Contains material which can cause developmental abnormalities. Avoid exposure during pregnancy. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Potential acute health effects

Inhalation	:	Toxic by inhalation. Irritating to respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
Ingestion	:	Harmful if swallowed.
Skin	:	Harmful in contact with skin. Irritating to skin.
Eyes	:	Irritating to eyes.

Potential chronic health effects

Chronic effects	:	Contains material that can cause target organ damage.
Carcinogenicity	:	Contains material which may cause cancer. Risk of cancer depends on duration and level of exposure.
Mutagenicity	:	No known significant effects or critical hazards.
Teratogenicity	:	No known significant effects or critical hazards.
Developmental effects	:	Contains material which can cause developmental abnormalities.
Fertility effects	:	No known significant effects or critical hazards.

2 . Hazards identification

Target organs : Contains material which causes damage to the following organs: blood, kidneys, liver, gastrointestinal tract, upper respiratory tract, skin, central nervous system (CNS), eye, lens or cornea.
Contains material which may cause damage to the following organs: cardiovascular system.

Over-exposure signs/symptoms

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing

Ingestion : No specific data.

Skin : Adverse symptoms may include the following:
irritation
redness

Eyes : Adverse symptoms may include the following:
pain or irritation
watering
redness

Medical conditions aggravated by over-exposure : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

See toxicological information (section 11)

3 . Composition/information on ingredients

Name	CAS number	%
xylene	1330-20-7	30 - 60
2-ethylhexyl nitrate	27247-96-7	15 - 30
ethylbenzene	100-41-4	10 - 14.99
2-(2-methoxyethoxy)ethanol	111-77-3	1 - 4.99
solvent naphtha (petroleum), light arom.	64742-95-6	1 - 4.99
naphthalene	91-20-3	0.1 - <1

4 . First aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

Skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.

Inhalation : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Ingestion : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

5 . Fire-fighting measures

Flammability of the product : May be combustible at high temperature.

Products of combustion : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides

Extinguishing media

Suitable : Use dry chemical, CO_2, water spray (fog) or foam.

5 . Fire-fighting measures

Not suitable	:	Do not use water jet.
Special exposure hazards	:	Flammable liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
Special protective equipment for fire-fighters	:	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Remarks	:	Decomposes violently when heated above 100°C.In a fire or if heated, a pressure increase will occur and the container may burst.Cool containing vessels with flooding quantities of water until well after fire is out.Fight fire from protected location or maximum possible distance.

6 . Accidental release measures

Personal precautions	:	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).
Environmental precautions	:	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Methods for cleaning up	:	Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7 . Handling and storage

Remarks	:	**Consult:** Innospec RS PB 09-51 Best Practice Manual for blends containing CI-0801. Product trade name CI-0801: 2-ethylhexyl nitrate.Keep away from heat.
Handling	:	Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Avoid exposure during pregnancy. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.
Storage	:	Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. Storage Temperature: Ambient

8 . Exposure controls/personal protection

Product name	Exposure limits
xylene	**ACGIH TLV (United States, 1/2008).** TWA: 100 ppm, 0 times per shift, 8 hour(s). TWA: 434 mg/m³, 0 times per shift, 8 hour(s). STEL: 150 ppm, 0 times per shift, 15 minute(s). STEL: 651 mg/m³, 0 times per shift, 15 minute(s). **OSHA PEL 1989 (United States, 3/1989).** TWA: 100 ppm, 0 times per shift, 8 hour(s). TWA: 435 mg/m³, 0 times per shift, 8 hour(s). STEL: 150 ppm, 0 times per shift, 15 minute(s). STEL: 655 mg/m³, 0 times per shift, 15 minute(s). **OSHA PEL (United States, 11/2006).** TWA: 100 ppm, 0 times per shift, 8 hour(s). TWA: 435 mg/m³, 0 times per shift, 8 hour(s).
ethylbenzene	**ACGIH TLV (United States, 1/2007).** TWA: 100 ppm, 0 times per shift, 8 hour(s). STEL: 125 ppm, 0 times per shift, 15 minute(s). **OSHA PEL 1989 (United States, 3/1989).** TWA: 100 ppm, 0 times per shift, 8 hour(s). TWA: 435 mg/m³, 0 times per shift, 8 hour(s). STEL: 125 ppm, 0 times per shift, 15 minute(s). STEL: 545 mg/m³, 0 times per shift, 15 minute(s). **NIOSH REL (United States, 12/2001).** TWA: 100 ppm, 0 times per shift, 10 hour(s). TWA: 435 mg/m³, 0 times per shift, 10 hour(s). STEL: 125 ppm, 0 times per shift, 15 minute(s). STEL: 545 mg/m³, 0 times per shift, 15 minute(s). **OSHA PEL (United States, 11/2006).** TWA: 100 ppm, 0 times per shift, 8 hour(s). TWA: 435 mg/m³, 0 times per shift, 8 hour(s).
naphthalene	**ACGIH TLV (United States, 1/2007).** TWA: 10 ppm, 0 times per shift, 8 hour(s). TWA: 52 mg/m³, 0 times per shift, 8 hour(s). STEL: 15 ppm, 0 times per shift, 15 minute(s). STEL: 79 mg/m³, 0 times per shift, 15 minute(s). **OSHA PEL 1989 (United States, 3/1989).** TWA: 10 ppm, 0 times per shift, 8 hour(s). TWA: 50 mg/m³, 0 times per shift, 8 hour(s). STEL: 15 ppm, 0 times per shift, 15 minute(s). STEL: 75 mg/m³, 0 times per shift, 15 minute(s). **NIOSH REL (United States, 12/2001).** TWA: 10 ppm, 0 times per shift, 10 hour(s). TWA: 50 mg/m³, 0 times per shift, 10 hour(s). STEL: 15 ppm, 0 times per shift, 15 minute(s). STEL: 75 mg/m³, 0 times per shift, 15 minute(s). **OSHA PEL (United States, 11/2006).** TWA: 10 ppm, 0 times per shift, 8 hour(s). TWA: 50 mg/m³, 0 times per shift, 8 hour(s).

Consult local authorities for acceptable exposure limits.

Engineering measures : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Personal protection

Eyes : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

8 . Exposure controls/personal protection

Respiratory	: Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
Hands	: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
Hygiene measures	: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

9 . Physical and chemical properties

Physical state	: Liquid.
Flash point	: Closed cup: 33.889°C (93°F)
Auto-ignition temperature	: Lowest known value: 130 to 215°C (266 to 419°F) (2-ethylhexyl nitrate).
Flammable limits	: Greatest known range: Lower: 1.5% Upper: 18% (2-(2-methoxyethoxy)ethanol)
Color	: Clear. Yellow.
Odor	: Aromatic.
Boiling/condensation point	: Lowest known value: 136.05°C (276.9°F) (ethylbenzene). Weighted average: 141.63°C (286.9°F)
Melting/freezing point	: May start to solidify at the following temperature: -13.889°C (7°F) This is based on data for the following ingredient: solvent naphtha (petroleum), light arom. . Weighted average: -44.99°C (-49°F)
Specific gravity	: 0.905 [ASTM D 4052]
Vapor pressure	: Highest known value: 0.7 to 0.9 kPa (5 to 6.6 mm Hg) (at 20°C) (xylene). Weighted average: 0.52 kPa (3.9 mm Hg) (at 20°C)
Vapor density	: Highest known value: 4.47 (Air = 1) (solvent naphtha (petroleum), light arom.). Weighted average: 3 (Air = 1)
Odor threshold	: Lowest known value: 0.001 to 0.03 ppm (2-ethylhexyl nitrate)
Evaporation rate	: Highest known value: <1 (2-ethylhexyl nitrate) Weighted average: 0.78compared with Butyl acetate.
Solubility	: Easily soluble in the following materials: cold water, hot water, methanol, diethyl ether, n-octanol and acetone.

10 . Stability and reactivity

Stability and reactivity	: The product is stable. Decomposes violently when heated above 100°C.
Incompatibility with various substances	: Reactive or incompatible with the following materials: oxidizing materials, reducing materials, acids and alkalis. Incompatible with fluorine.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous polymerization	: Under normal conditions of storage and use, hazardous polymerization will not occur.
Conditions of reactivity	: Slightly explosive in the presence of the following materials or conditions: heat.
Effect on metal	: **2-(2-methoxyethoxy)ethanol**: Incompatible with aluminum and magnesium. Incompatible with copper alloys.

11 . Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure

11 . Toxicological information

ethylbenzene	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-
xylene	LD50 Dermal	Rabbit	4320 mg/kg	-
	LD50 Oral	Rat	4300 mg/kg	-
	LC50 Inhalation Vapor	Rat	5000 ppm	4 hours
2-ethylhexyl nitrate	LD50 Dermal	Rabbit	>4820 mg/kg	-
	LD50 Oral	Rat	>9640 mg/kg	-
	LDLo Oral	Rat	7500 mg/kg	-
	LC50 Inhalation Vapor	Rat	4.6 mg/L	1 hours
2-(2-methoxyethoxy)ethanol	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	4140 mg/kg	-
	LC50 Inhalation Vapor	Rat	>20 mg/L	4 hours
naphthalene	LD50 Dermal	Rat	>2500 mg/kg	-
	LD50 Oral	Rat	490 mg/kg	-
	LC50 Inhalation Vapor	Rat	>340 mg/m³	1 hours
solvent naphtha (petroleum), light arom.	LD50 Oral	Rat	8400 mg/kg	-

Conclusion/Summary : Not available.

Chronic toxicity

Conclusion/Summary : Not available.

Irritation/Corrosion

Conclusion/Summary : Not available.

Sensitizer

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
xylene	A4	3	-	-	-	-
ethylbenzene	A3	2B	-	-	-	-
naphthalene	A4	2B	-	-	Possible	-

Mutagenicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

12 . Ecological information

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Aquatic ecotoxicity

Product/ingredient name	Test	Result	Species	Exposure
ethylbenzene	-	Acute EC50 7.2 mg/L	Algae - Selenastrum capricornutum	48 hours
	-	Acute EC50 2.93 mg/L	Daphnia - Daphnia magna	48 hours
	-	Acute LC50 4.2 mg/L	Fish - Oncorhynchus mykiss	96 hours
xylene	-	Acute LC50 3.3 mg/L	Fish - Oncorhynchus mykiss	96 hours
	-	Acute LC50	Fish - Bluegill -	96 hours

12 . Ecological information

		water	macrochirus	
2-ethylhexyl nitrate	-	Acute EC50 >12.6 mg/L	Algae	72 hours
	-	Acute EC50 >12.6 mg/L	Daphnia	48 hours
	-	Acute LC50 >12.6 mg/L	Fish	96 hours
2-(2-methoxyethoxy)ethanol	-	Acute EC50 >500 mg/L	Daphnia	48 hours
	-	Acute LC50 1000 mg/L	Fish - Salmo Gairdneri	96 hours
	-	Acute LC50 7500 mg/L	Fish - Lepomis macrochirus	96 hours
naphthalene	-	Acute EC50 1.96 mg/L Fresh water	Daphnia - Water flea - Daphnia magna	48 hours
	-	Acute LC50 1.8 mg/L	Fish - Oncorhynchus mykiss	96 hours

Conclusion/Summary : Not available.

Biodegradability

Conclusion/Summary : Not available.

Other adverse effects : No known significant effects or critical hazards.

13 . Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14 . Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	UN1993	Flammable liquids, n.o.s. (xylene, solvent naphtha (petroleum), light arom.). Marine pollutant (2-ethylhexyl nitrate)	3	III		Marine pollutant **Limited quantity** Yes. **Packaging instruction** **Passenger aircraft** Quantity limitation: 60 L **Cargo aircraft** Quantity limitation: 220 L

14 . Transport information

Reportable quantity : CERCLA: Hazardous substances.: vinyl acetate: 5000 lbs. (2270 kg); cumene: 5000 lbs. (2270 kg); xylene: 100 lbs. (45.4 kg); naphthalene: 100 lbs. (45.4 kg); ethylbenzene: 1000 lbs. (454 kg); toluene: 1000 lbs. (454 kg); 2-(2-methoxyethoxy)ethanol;

Flash point : Closed cup: 33.889°C (93°F)

15 . Regulatory information

United States

HCS Classification : Flammable liquid
Toxic material
Irritating material
Carcinogen
Target organ effects

U.S. Federal regulations : TSCA 4(a) final test rules: naphthalene
TSCA 8(a) PAIR: naphthalene
United States inventory (TSCA 8b): All components are listed or exempted.
TSCA 12(b) one-time export: naphthalene

SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: xylene; ethylbenzene; 2-(2-methoxyethoxy)ethanol
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: xylene: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard; ethylbenzene: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard; 2-(2-methoxyethoxy)ethanol: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard

Clean Water Act (CWA) 307: naphthalene; ethylbenzene; toluene

Clean Water Act (CWA) 311: vinyl acetate; xylene; naphthalene; ethylbenzene; toluene

Clean Air Act (CAA) 112 accidental release prevention: vinyl acetate

Clean Air Act (CAA) 112 regulated flammable substances: No products were found.

Clean Air Act (CAA) 112 regulated toxic substances: vinyl acetate

Not available.

SARA 313

	Product name	CAS number	Concentration
Form R - Reporting requirements :	xylene	1330-20-7	30 - 60
	ethylbenzene	100-41-4	9.99 - 14.99
	2-(2-methoxyethoxy)ethanol	111-77-3	0.99 - 4.99
	naphthalene	91-20-3	0.09 - 0.99
Supplier notification :	xylene	1330-20-7	30 - 60
	ethylbenzene	100-41-4	9.99 - 14.99
	2-(2-methoxyethoxy)ethanol	111-77-3	0.99 - 4.99
	naphthalene	91-20-3	0.09 - 0.99

State regulations : **WARNING:** This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
ethylbenzene	Yes.	No.	No.	No.
naphthalene	Yes.	No.	Yes.	No.
toluene	No.	Yes.	No.	7000 µg/day (ingestion) 13000 µg/day (inhalation)

Canada

WHMIS (Canada) : Class B-2: Flammable liquid
Class D-2A: Material causing other toxic effects (Very toxic).
Class D-2B: Material causing other toxic effects (Toxic).

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

15 . Regulatory information

EU regulations

Hazard symbol or symbols :

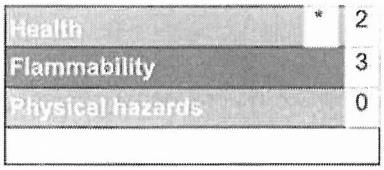
Risk phrases : R10- Flammable.
R20/21- Harmful by inhalation and in contact with skin.
R38- Irritating to skin.
R52/53- Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety phrases : S36/37- Wear suitable protective clothing and gloves.

16 . Other information

Label requirements : FLAMMABLE LIQUID AND VAPOR. HARMFUL IF INHALED. CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY BE HARMFUL IF ABSORBED THROUGH SKIN OR IF SWALLOWED. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE. SUSPECT CANCER HAZARD - CONTAINS MATERIAL WHICH MAY CAUSE CANCER. DEVELOPMENTAL HAZARD - CONTAINS MATERIAL WHICH CAN CAUSE ADVERSE DEVELOPMENTAL EFFECTS.

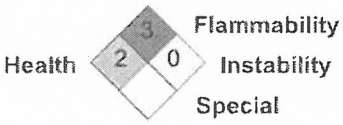
Hazardous Material Information System (U.S.A.) :



Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.) :



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Date of previous issue : **No previous validation.**

Version : **2.02**

Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.